

A CONTRIBUTION TO OUR KNOWLEDGE OF THE
ORTHOPTERA ACRIDIODEA
 OF MESOPOTAMIA AND N. W. PERSIA.

By

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The material for this publication was collected by Dr. P. A. Buxton and Mr. W. Edgar Evans during their active service with the Mesopotamian Force, and kindly submitted to me for working out. As the Orthopteran fauna of Western Asia has always interested me very much, I am extremely obliged to Dr. Buxton and Mr. Evans for placing this material at my disposal. The spelling of native geographical names adopted by me in the following list is generally in accordance with the map of N. W. Persia, issued with Dr. Buxton's article on the Birds of N. W. Persia in this number and with the map of Mesopotamia which was published with Capt. R. E. Cheesman's on the mammals of Mesopotamia. In some instances, however, I used somewhat different spelling; thus, instead*, Qazvin—Kazvin; Talish—Talysh.

LIST OF SPECIES.

1. *Paratettix meridionalis* Ramb.—Numerous specimens from Amara, Baghdad, Enzeli and Qurnah (side of stream).
2. *Acrida turrita deserti*, Uvarov †.—This desert race of common *Acrida turrita*, St., has been described by myself from Eastern Transcaucasia and Transcaspa; in Dr. Buxton's collection there is a pair (1 ♂, 1 ♀) of the same from Kazvin taken, 17—20-7-19, so it is obvious that it is distributed over Persia as well.
3. *Acridella miniata* (Klug).—Garden by Tigris, below Amara, 3-6-18, 1 ♂ taken by W. E. Evans. The species is known from Algeria, Egypt, Arabia and Beluchistan; I have also seen the specimens from Palestine.
4. *Acridella robusta* (Uvarov).—Amara, 5—14-6-18, 3 ♂ ♂, taken by Dr. Buxton. I know this species, previously described by myself ‡ from Eastern Transcaucasia and from different localities of Kurdistan and Persia. It is now evident that it is distributed all over the Persian and Mesopotamian deserts.
5. *Duroniella fracta* (Krauss).—Garden above Amara, 9-4-18 (Mr. Evans).
6. *Ochridia tibialis*, Fieb.—Baghdad, 23-9-17. (Dr. Buxton); Amara, 20-10-17 (Dr. Buxton); garden above Amara, 28-6-18 (Mr. Evans); Chahala, nr. Amara, among grass, 30-10-17.
7. *Parapleurus alliaceus*, Germ.—Enzeli, 20-6—10-7-19 (Dr. Buxton). This species is boreal in its origin and has not been known as yet from the Southern shore of the Caspian Sea; the whole fauna of this locality (Gilan) is remarkable for the presence of several truly boreal forms.
8. *Stauroderus bicolor* (Charp.).—Persia; Menjil, Safid-Rud, 27-1-19 (Dr. Buxton); Mesopotamia; Jebel Hamrin, N. E. of Baghdad, 26-9-18 (Ak-i-Girreh, W. Persia, grassy ledges, limestone cliffs, 15-1-19 (Mr. Evans).
9. *Dociostaurus anatolicus* (Krauss).—Kazvin, 4,000 ft., 25-8—7-9-19 (Dr. Buxton).

* See papers on Birds of N. W. Persia by P. A. Buxton published in this number, and Birds of Mesopotamia by C. B. Teechurst which will shortly appear.

† Revue Russe d'Entomologie, xvi., 1916, p. 10.

‡ l. c. p. 8 (*Acrida robusta*).

10. *Doclostaurus genei* (Oesk.).—Amara, 1—16-6-18 (Dr. Buxton); among vegetation in garden on Tigris below Amara, 3-6-18; garden above Amara, 15-6-18 (Mr. Evans).
11. *Pallasiella truchmana* (Fisch. Wald.).—Roadway through large marsh, 12 miles below Amara, 22-5-18 (Mr. Evans).
12. *Æolopus thalassinus*, Rossi.—Numerous specimens from Amara, Enzeli Baghdad, Kazvin.
13. *Æolopus strepens deserticola* (Uvarov)*.—Palm grove, Beit Na'ama, near Basrah, 8-4-19 (Mr. Evans). This desert subspecies of *A. strepens* (Latr.) was described by me from specimens taken in Eastern Transcaucasia and Transcaspia.
14. *Pachytylus danicus* (L.).—Amara, 11-11-18, 20-10-18 (Dr. Buxton); Chahala, Amara, grassy ground, 5-11-17; Masharra, Amara, among Acacia scrub, 17-8-18 (Mr. Evans). The dates of development of imago in Mesopotamia are quite different from those obtained in more northern localities and they seem to indicate that this species has here two generations in a year.
15. *Edaleus senegalensis*, Krauss.—Enzeli, 7-6—10-7-19, vii., 19, common; Gilan, 14-6-19 (Dr. Buxton). As synonyms of this species are to be regarded:
Edaleus monkosiewitchi, Bolivar, Ann. Soc. Ent. Belge, 28, 1884, p. cv.—cvi.
Edaleus nigrofasciatus, Deg. var. c. Saussure, Addit. ad Prodr. Oed., p. 42.
16. *Edaleus nigrofasciatus* (Deg.).—Kazvin, 7,000 ft., 26-8-19; Amara, 13—26-6-18 (Dr. Buxton); garden above Amara, 21-6-18; uncultivated land, right bank of Tigris, 8 miles above Amara, 10-6-18.
17. *Mioscirtus wagneri* (Ev.).—Tehran, 12-10-19; Amara, 15—28-6-18 (Dr. Buxton); on dry earthy places in garden on Tigris, Amara, 1-11-17 (Mr. Evans). Saussure's *Conozoa rogenhoferi* (Add. ad Prodr. Oedip., p. 62, tab. 2, fig. 4, 4a, 4b, 4c) is evidently synonymous with Eversmann's species.
18. *Edipoda schochi*, Sauss.—Kazvin, 5—7-9-19 (Dr. Buxton).
19. *Edipoda gratiosa*, Serv.—Kazvin, 17-7—25-8-19 (Dr. Buxton).
20. *Acrotylus insubricus*, Scop.—Many specimens from Enzeli, Kazvin, Menjil, Baghdad and Amara.
21. *Helioscirtus moseri*, Sauss.—Mesopotamia; Jebel Hamrin, gravelly summit, 3-12-18 (Mr. Evans). The specimens are quite like those from Turkestan. I think that *H. moseri ab. pietschmanni*, described by N. Ikonnikov†) from Mesopotamia is a mere colour form.
22. *Sphingonotus cærulans*, L.—In very large numbers from Enzeli, Gilan Menjil, Kazvin, Baghdad, Amara. One specimen taken by Dr. Buxton at Tula Rud (Talysh) was the prey of a dragon-fly; Dr. Buxton gives the following note on this occasion: "I saw the Acridian fly up as I came along and the dragon-fly catch it securely in the air. Both were netted instantly and the Acridian was not hurt at all, so far as I could see. Both species were common. The Odonatan has been determined by K. J. Morton as *Orthetrum sabina*, Drury."
23. *Sphingonotus satrapes*, Sauss.—Amara, 26-6—4-7-18 (Dr. Buxton). This large species of *Sphingonotus* has been known, so far, from the southern parts of Transcaucasia and Russian Turkestan; I know specimens (in the Tiflis Museum) from Tehran, but it is evidently distributed further west and southwards.

* I described in "Entom. Monthly Magazine" 1921.

† Ann. d. k. k. Naturhist. Hofmus. Wien, xxvii, 1913, p. 331.

24. *Leptopternis gracilis* (Ev.).—Mesopotamia: Jebel Hamrin, N. E. of Baghdad 20-11-18 (Mr. Evans).
25. *Tmethis carinatus*, Fabr.—Khaniqin, R. Diala, 1-8-18 (Dr. Buxton) known from Egypt, Arabia and Palestine; I have seen specimens from N. W. Persia.
26. *Nocarodes serricollis*, Fisch. Wald.—Menjil, valley of Sufid-Rud, 3,000 ft. 24-4-19 (Dr. Buxton).
27. *Pyrgomorpha conica*, Oliv.—Baghdad, 7-10-17; Amara, 30-3—30-6-18 (Dr. Buxton); garden above Amara, 14-3-18 (Mr. Evans).
28. *Leptosirtus evansi*, sp. n.

♂: Subdepressus, rugulosus, ochraceus, nigro, rubro, rufo et albo punctatus ac variegatus, sparce pilosus; subtus albidus.

Antennæ caput cum pronoto unitis subæque longæ; 8-articulatæ; articulo tertio longiore quam latiore; articulis 4-7 subæque longis ac latis; articulo octavo longissimo, præcedentibus six æquilongo, creviter incrassato, apice truncato. Facies parum oblique reclinata, albida, lata, subplana, punctis magnis impensis, hand numerosis. Costa frontalis inter antennis validissime compressa, lamellaris, angustissime lineari-sulcata, infra ocellum nulla; ocello magno, ovoideo. Tempora apicem vertici formantia, parum declinata, fere superiora, magna, trigonalia, marginibus calloso-elevatis, intus late sese contigua. Vertex valde impressum marginibus lateralibus in dimidia antica valde elevatis, postice subdepressis, dehinc elevatis introrsumque incurvis, carinis transversis, medio hand attingentibus, formantia; carina longitudinali mediana antice nulla, pone medio et in occipite parum distincta. Occiput callositas duos sat magnos rotundos, albos, ad angulum interno-posticum oculorum positos, duosque posticis majoribus, sed depressis, instructum. Oculi magni, valde globosi.

Pronoti prozona gibbulosa; tuberculis callosis six minutis ad marginem anticum, duosque sat magnis albidis in parte antica prozoni et quadris minoribus, subacuminatis, figuram trapezoideum formantibus in regionem sulcos transversos positos, instructa. Metazona planiuscula, callositas albidos duos, depressis, oblongis, in medio positos, instructa; margine postico lato rotundato. Carinæ laterales in prozona per tuberculis tres callosis magnis, in serie obliquo positis (duos ad marginem anteriorem positos et sese appropinquatis, unoque parum remoto, inter sulcos transversosposito) substitutæ; in metazona in dimidio postico tantum expressæ, callosæ, postorsum sat valde divergentes. Carina mediana medio tantum parum perspicua, antice et postice obsoleta. Sulcum transversum secundum parum ponemedium situm in medio antrorsum parum angulato recurvum; sulcum primum per callositas obliquos interruptum. Lobi deflexi haud planæ, medio valde ac late impressæ, antrorsum angustatæ; angulo antico subrecto, tuberculo calloso magno oblongo instructo; angulo postico recto, vix calloso.

Prosternum antice valde laminato-elevatum. Spatium mesosternale longius quam latum, metasternale valde transversum.

Elytra angusta, apicem femorum posticorum attingentia in tertia parte apicali membranacea, rugulosa, tuberculis callosis albis oblongis in serie uno positos, instructa. Alæ cærulescentes, elytrorum parum longioræ.

Femora antica parum incrassata, albida; tibiæ antice parum curvati, spinulis margine infero-externo duobus, infero-interno uno instructæ. Femora intermedia elongata, parum decurva, albescens, fusco fasciata. Femoras postica extus ochracea, maculis rubris irregularibus in area superno-media, nigrisque in area dicta et in margine inferiore areæ externo-mediae positos, ornata; intus albida. Tibiæ posticæ griseo-cærulescentes, spinis margine externo quattuor, in margine interno duo instructæ; calcaria valde elongata, sat crassa, apice ipso levissime subarcuato, nigro; calcar supero-internum longissimum, calcaria supero-externa

ac infero-interna sese æquilonga et supero-interno parum breviora; calcar externo-infernum præcedentibus sat brevior, distincte decurvus. Tarsi postici articulo primo sat longo, secundo brevissimo, tertio præcedentibus simul sumptis æqualio, decurvo; unguiculi graciles, sat longi, decurvi; pulvilli dimidio unguiculorum æquantes.

	♀ (typus)	♀ (cotypus)
	mm.	mm.
Long. corporis ..	11	17
„ pronoti ..	2	3
„ elytrorum ..	9	13
„ femori postici ..	6, 5	9

Hab.—Mesopotamia: Jebel Hamrin prope Baghdad, 13-11-18 (W. E. Evans leg).

Typus ♂ et cotypus ♀ in collectionem Musei Britannici positi; alii cotypi in collectionibus Musei Edinburgensis, Evansi et me a conservati.

I have been in doubt as to the genus to which this interesting insect belongs: in its general appearance it seems to be an *Oedipodid*, but the position and form of the tempora, which are most clearly contiguous and forming the extremity of the fastigium, indicates its place among *Pyrgomorphidæ*, near *Chrotogonus*. The nearest known thing is *Leptoscirtus angustus*, Blanch. (= *L. savignyi*, Sauss.) and after a careful study of the unique specimen of the latter species in the British Museum, I came to the conclusion that my species is to be placed in the same genus. It is obvious, also, that Saussure was wrong in placing *Leptoscirtus* in *Oedipodidæ*, since the genotype of this genus is *L. angustus*—a Pyrgomorphid; on the other hand the remaining two species which are included in the genus *Leptoscirtus* by Saussure—*L. unguiculatus*, Sauss. and *L. aviculus*, Sauss., are doubtless *Oedipodidæ* and ought to be withdrawn from this genus. Thus, the genus *Leptoscirtus* (of Pyrgomorphidæ) includes in it two species only: *L. angustus*, Blanch, and *L. evansi*. * The genus itself is well characterised by the short fastigium of vertex, by the antennæ composed of 8-9 articles while the terminal article is very long and incrassate, and by long spurs of the hind tibiæ. The new species is quite easily separated from *L. angustus* by more markedly marginated tempora, by the characteristic callosities on head, pronotum and elytra, by the 8-jointed antenæ, &c.

This remarkable insect is truly desert in its habitation, being discovered by Mr. Evans on gravelly slopes, where it ought to be exceedingly well protected by its coloration and habits.

28. *Tropidopola cylindrica*, Marsh.—Amara, 30-10—1-11-17; 10-4—2-5-18 —Qalatsaleh, 6-1-18 (Dr. Buxton); grassy ground near Tigris, Amara, 31-10-17 (Mr. Evans).
29. *Derocorys gibbosa*, Fisch.-Wald.—River Tigris, 8 miles above Amara, uncultivated ground, 10-9-18 (Mr. Evans).—This species has been known so far only from Aralo-Caspian deserts.
30. *Acrydium ægyptium*, L.—Enzeli, 10-4-19; Amara, 30-9—27-10-17 (Dr. Buxton); Masharra Canal, Amara, on willows, 5-9-18 (Mr. Evans).
31. *Schistocerca gregaria* (Forsk.) (= *peregrina*, Ol.)—Enzeli, 24-5-19, “migrant?” (Dr. Buxton); courtyard, Beit Na’Ama Hospital, Basrah, 5-4-19. (Mr. Evans).—Mr. Evans remarks that “a flight of this species appeared at Basrah in April 1919.” The supposition of Dr. Buxton that the Enzeli specimen belongs to a migrating swarm ought to be true, since this

* It is possible that some species of *Chrotogonus* with small number of joints of antennæ (*Ch. savignyi*, Burm., for instance) might be replaced in *Leptoscirtus*, but it can be done after study of specimens only.

locust is not known to have breeding places so far north: he informs me that the species was common at Enzeli at the end of May, and that drowned specimens were frequently washed up on the shore of the Caspian.

32. *Calliptamus italicus*, L.—Large number of specimens from different localities (Menjil, Kazvin, Baghdad, Amara, Mendeli).
33. *Thisocetrus littoralis*, Ramb.—Amara, 30-10-17, 15-6—1-11-18 (Dr. Buxton); among herbage near Tigris, Amara, 1-11-17 (Mr. Evans). The synonymy of this species is rather large, since I cannot agree with J. Bolivar*, who regards *Euprepocnemis charpentieri*, St., and *E. littoralis*, Ramb. as distinct species, the only difference being in the number of spines on the hind tibiae, which is rather inconstant. As I have also had the opportunity of seeing some of Walker's types in the British Museum, I am able to add some new synonyms to the known ones and the chief synonyms of this species are as follows:—
1838. *Gryllus littoralis*, Rambur, Faune de l'Andal., p. 78, tab. vii, fig. 1-2.
1861. *Caloptenus similis*, Brunner-Wattenwyll, Verh. Z.-B. Gesellschaft. Wien, xi, p. 224.
1870. *Cyrthacanthacris notata*, Walker, Catal. Derm. Salt. Brit. Museum, iii, p. 574.
1870. *Heteracris annulosa*, Walker, l. c. iv., pp. 673, 674, n. 41.
1871. *Acridium continuum*, Walker, l. c., v, Suppl., p. 61.
1873. *Euprepocnemis charpentieri*, Stal, Rec. Orth., 1, p. 75.
34. *Thisocetrus buxtoni*, sp. n.

Th. littorali, Ramb, proximus, sed major et robustior.

Griseo-flavescens, haud maculatus. Antennæ supra flavæ. subtus nigrescentes. Caput griseo-ochraceum, vitta angusta occipitale, postrosum paulo dilatata, vittisque angustis verticalibus ad marginem inferiorem oculi usque ad clypeo perductis, nigris. Pronotum supra carina mediana angustissime nitido-nigra, in vitta castanea diluta inclusa; canthi laterales pronoti anguste nigri, inferius diluti; sulci transversi in lobis lateralibus ad partim nigri. Elytra testaceo-flavescens, maculis nullis; parte anali pallidiora; basi ipso vitta curta obscura, valde diluta; venis principalibus basi ad partim nigrescentibus. Femora postica corpore concolores, ad carinam supero-externam internumque maculis tres nigris angustissimis; sulco infero sanguineo; lobis genicularibus vitta superna fusca punctoque uno nigro infra posito ornatis. Tibiæ posticæ flavicantes (in parte apicali vix roscantes), fascies duabus nigris (prima per annulo angustissimo flavo in dua parte divisa) ornatae; spinis flavis, apice ipso nigris. Tarsi postici flavi.

Antennæ medio paulo dilatatae, 22-annulatae, capite cum pronoto unitis valde longiores. Costa frontalis subgibbosa, verticem versus paulo angustata, irregulariter denseque impresso punctata. Vertex valde prominulum, planum, vix impressum, hand acute delineatum, rhomboidale, apice subrotundato, medio anguste carinulatum, carinula in occipite perducta; occiput subglobosum. Pronoti prozona a latere visa distincte gibbosa; metazona subcoriacea, angulo postico obtuso, rotundato; carina mediana acuta, elevata, per sulco typico recto, pone medium sito, profunde intersecta; sulcis duabus anterioribus hand profundis, curvatis; carinis lateralibus acutis, granulosis; lobis lateralibus coriaceis, sulcis duabus posterioribus valde impressis, margine antico vix sinuato, inferiore in medio obtusangulato, postico obliquo, subrecto, angulo postico valde obtuso, subrotundato. Tuberculum prosternale obtuse conicum, parum decurvum. Pedes omnes sat robusti, aroliis inter ungues sat magnis, rotundis; tibiæ posticæ

* Trab. Mus. Nac. Cienc. Natur. Madrid, Ser. Zool. N. 20, 1914, p. 23.

spinis extus intusque 9-10 armata. Lamina subgenitalis ♂ curta, apice obtusissima. Cerci ♂ compressi, laminae subgenitali longiores, pone medio decurvi, validissime compressi et dilatati.

	♂ (typus).	♀ (cotypus).
	mm.	mm.
Long. corporis ..	36	58
„ antennarum ..	14, 5	18
„ pronoti ..	8	11
„ elytrorum ..	33	45
„ femori postici ..	22, 5	32

Hab.—Mesopotamia: Amara 25-5-18 (Dr. Buxton leg.); Ibidem, 8-6-18 (Mr. Evans leg.)

Typus ♂ et cotypus ♀ in collectionem Musei Britannici; una ♀ cotypica in collectionem Musei Ediburgensis.

This splendid species is rather closely related to *Th. littoralis*, Ramb., as is obvious from the resemblance of the lamina subgenitalis and cerci of male, but it differs from the said species by the numerous characters—size, coloration, number of spines at the hind tibiae, &c.

Th. buxtoni is the fourth known palearctic species of its genus. The specimens taken by Mr. Evans were captured among grass and camel-thorn at Masharra Canal, Amara.

35. *Thisoecetrus adspersus*, Redt.—Amara, 13—30-6-18 (Dr. Buxton); above Amara, on *Sueda*, 17-6-18; 12 miles below Amara, on *Acacia* in dry marsh, 12-9-18 (Mr. Evans).
36. *Thisoecetrus dorsatus*, F.-W.—Amara, 25—30-6-18; Kazvin, 19-7-19 (Dr. Buxton); among herbage, in garden above Amara, 21-6-18 (Mr. Evans).—J. Bolivar in his recent publication *) regards *Th. dorsatus* and *Th. pterostichus* F.-W. as two different species, but I have proved † by the study of the type specimens that the second name is a mere synonym.

For separating four palearctic species of the genus *Thisoecetrus* the following key may be of some use ‡):—

- 1 (2). Pronotum rounded above, without lateral carinae; median carina very feeble. Antennae in ♂ $2\frac{1}{2}$, in ♀ twice as long as the head and pronotum taken together. Lamina subgenitalis ♂ is long and acute. Pronotum with a broad and sharply marked black stripe along the middle which does not proceed on the elytra. Elytra green with very few (or none at all) scattered small black points. Hind femora green, without any marking; hind tibiae red, without black rings.

Th. dorsatus, F. W.

- 2 (1). Pronotum not rotundate above; sometimes with raised median carina; lateral carinae well expressed. Antennae in ♂ not more than $1\frac{1}{2}$ times as long as the head and pronotum together, in ♀ as long as these, or a little longer. Lamina subgenitalis of male short and obtuse.

*L. c. p. 23.

† Uqber die Orthopteren fauna Transcaspiens.—Horæ Soc. Entom. Ross., xl, N3, 1912.

‡ See also my paper on the Transcaspien Orthoptera (l. c., 32-34; fig. 3).

- 3 (4). Lamina subgenitalis ♂ obtuse, not marginated at the apex. Anal area of the elytra infuscated at the base. Hind femora with sharp black markings on the upper side keel.
- 5 (6). Pronotum with sharply delimited black stripe along the median carina. Elytra with numerous large black spots. Hind tibiæ sanguineous, with 15-17 spines on the outer side and about 13 on the inner side; hind tarsi rose.

Th. littoralis, Ramb.

- 6 (5). Pronotum with only median carina black, the median stripe being castaneous and not sharply defined. Elytra without any black spots or points. Hind tibiæ yellowish-grey, with 9-10 spines on both sides; hind tarsi yellowish.

Th. buxtoni, Uvar.

- 4 (3). Lamina subgenitalis ♂ marginate at the apex. Anal area of elytra not infuscated; elytra with numerous black spots. Hind femora with indistinct testaceous patterns on the outer side. Hind tibiæ rose, with 15 spines outwards and 12 inwards.

Th. adspersus, Redt.

37. *Euprepocnemis plorans* (Charp.)—Beit Na'ama near Basrah, 8-4-19 (Mr. Evans).—The following Walker's species are synonymous with *E. plorans* as I am convinced from the study of type specimens in the British Museum:

1870. *Cyrthacanthacris ornatipes*, Walk., Cat. Derm. Salt. Brit. Mus., iii, p. 575, N. 50.

1870. *Heteracris consobrina*, Walker, l. c., iv, pp. 673, 674. No. 40.

The Zoogeographical character of the Acridiidean fauna of Mesopotamia.

The records on the Mesopotamian Acridiidean fauna, previous to this one, are rather scarce, but, nevertheless, we can find in them some species not taken by Dr. Buxton and Mr. Evans.

Saussure in his "Prodrusus Ædipodiorum" (p. 149) quotes *Ædipoda miniata*, Pall. var. *flava* from Baghdad, but the general character of distribution of this species leaves no doubt that either Saussure's determination of the specimen or its label is wrong. In the "Additamenta ad Prodrumum" the said author described from Baghdad *Cobozoa rogenhaferi*, Sauss. (l. c., p. 62, tab. 2, fig. 4, 4z, 4b, 4c) which is synonymous with *Mioscirtus wagneri*, Ev., as I have stated above. In 1913 N. Jkonnikov* published a list of Mesopotamian Acridiodea collected in 1910 by the Austrian Pietschmann's Expedition, and in this list 19 named species are recorded, ten of them being not found again by our collectors. In 1916† I had the opportunity of working out a collection of Orthoptera made by P. Nesterov on his journey along the Turko-Persian boundary, i.e., partly in the Mesopotamian plains; in this list ten species of Acridiodea are recorded, amongst them two not taken by Dr. Buxton and Mr. Evans. Thus, the number of species known from Mesopotamia is 43. If we compare this figure with the number of species known from Transcaspiæ which is about 70, we may conclude that the bulk of Mesopotamian fauna is already known and the list of known species may serve rather well the purpose of drawing some Zoogeographical conclusions.

* Ann. Naturhist. Hofmuseums Wien, xxvii, pp. 389-390.

† Bull. du Musée du Caucase, x, 1916, pp. 181-194.

In the following list * the distribution of the Mesopotamian Acridiodes in the adjacent countries is shown, as follows :—

	N. African deserts.	Meso- potamia.	Table- lands of Persia and Asia Minor.	Trans- caspia.
1. <i>Paratettix meridionalis</i> (Ramb.).	+	+	+	+
2. <i>Acridalla robusta</i> (Uvar.) ..	v.	+	+	+?
3. „ <i>miniata</i> (Klug) ..	+	+	—	v.
4. „ <i>nasuta</i> (L.)	+	+	+	+
5. <i>Duroniella fracta</i> (Krauss) ..	+	+	+	v.
6. <i>Ochridia tibialis</i> (Fieb.) ..	+	+	+	+
7. <i>Stauroderus bicolor</i> (Charp.) ..	—	+	+	+
8. <i>Dociostaurus maroccanus</i> (Thunb.)	+	+	+	+
9. <i>Dociostaurus anatolicus</i> (Krauss).	—	+	+	—
10. <i>Dociostaurus genei</i> (Oesk.) ..	+	+	+	+
11. <i>Pallasiella truchmana</i> (F.-W.) ..	—	+	+	+
12. <i>Æolopus thalassinus</i> (Rossi) ..	+	+	+	+
13. „ <i>tamulus</i> (F.)	—	+?	—	—
14. „ <i>streps deserticola</i> (Uvar.)	—	+	+	+
15. <i>Pyrgodera armata</i> , (F.-W.) ..	—	+	+	+
16. <i>Pachytylus donieus</i> (L.) ..	++		+	+
17. <i>Ædaleus nigrofasciatus</i> (D. G.).	+	+	+	+
18. „ <i>senegalensis</i> (Krauss) .	+	+	+	+
19. <i>Mioscirtus wagneri</i> (Ev.) ..	+	+	+	+
20. <i>Ædipoda gratiosa</i> , Ser.	+	+	+	+
21. „ <i>schochi</i> , Sauss ..	—	+	+	—

* Following abbreviations are used in the list: + means that the species is known from the country; — it is absent from it; v—it is replaced by closely related species or race.

	N. African deserts.	Meso- potamia.	Table- lands of Persia and Asia Minor.	Trans- caspia.
22. <i>Acrotylus insubricus</i> , Scop. ..	+	+	+	+
23. <i>Helioscirtus moseri</i> , Sauss. ..	v.	+	+	+
24. <i>Sphingonotus cœrulans</i> (L.) ..	+	+	+	+
25. „ <i>satrapes</i> , Sauss. ..	—	+	+	+
26. <i>Leptopternis gracilis</i> (Ev.) ..	—	+	+	+
27. <i>Tmethis carinatus</i> (F.)	—	+	+	—
28. „ <i>gibber</i> (St.)	—	+	+	—
29. „ <i>cisti</i> (F.)	+	+	v.	v.
30. <i>Pyrgomorpha conica</i> (Ol.) ..	+	+	+	+
31. <i>Leptoscirtus evansi</i> (Uvar.) ..	v.	+	—	—
32. <i>Chrotogonus homalodema</i> (Blan.)	+	+	v.?	v.
33. <i>Tropidopola cylindrica</i> (Marsh.)	+	+	+	+
34. <i>Derocorys gibbosa</i> (F.-W.) ..	v.	+	+	+
35. <i>Acridium aegyptium</i> (L.) ..	+	+	+	+
36. <i>Schistocerca gregaria</i> (Forsk.) .	+	+	+	+
37. <i>Calliptamus italicus</i> (L.) ..	+	+	+	+
38. <i>Sphodromerus cœlosyriensis</i> (Gig.-Tos) *	+	+	+	+
39. <i>Thisœcetrus littoralis</i> (Ramb.) .	+	+	+	+
40. „ <i>buxtoni</i> , (Uvar.) ..	—	+	—	—
41. „ <i>adpersus</i> Redt. ..	+	+	+	+
42. „ <i>dorsatus</i> (F.-W.) ..	—	+	+	+
43. <i>Euprepocnemis plorans</i> (Charp.)	—	+	+	+
Total ..	25+5v.	43	37+2v.	32+4v.

* *Calliptamus italicus*, L. a^b. *carbonaria*, Uvar. (Revue Russes' Entom., xiv 1914, p. 226); this synonymy will be explained fully in another paper.

First of all it is evident from this table that as many as 28 out of 43 Mesopotamian Acridiodes are distributed all over the countries mentioned in the table; this group is composed partly of species very widely distributed generally, which are of small zoogeographical interest, but not less than 12 species are of peculiar interest, since their distribution is confined to the so called "desert belt" of the northern hemisphere; they are as follows:—

Acridella robusta.
Ochrilidia tibialis.
Dociostaurus maroccanus.
 „ *genei.*
Mioscirtus wagneri.
Ædipoda gratiosa.
Helioscirtus moseri.
Tmethis cisti.
Chrotogonus homalodema.
Derocorys gibbosa.
Sphodromerus cœlosyriensis.
Thisocetrus adspersus.

Some of these species are certainly to be found a little beyond the limits of the deserts, as for instance both species of *Dociostaurus* and *Ædipoda gratiosa*, but this fact may be easily explained by recent migration.

The remaining 13 species which are not distributed all over the "desert belt," setting aside *Thisocetrus buxtoni*, which is described in this paper, and *Æolopus tamulus*, the occurrence of which in Mesopotamia is rather doubtful, may be divided into two distinct groups. One of these groups is composed of species common to Mesopotamia and the dry desert table-lands of Persia and Asia Minor, as follows:—

* *Stauroderus bicolor.*
Dociostaurus anatolicus.
 * *Pallasiella truchmana.*
 * *Æolopus strepens deserticola.*
 * *Pyrgodera armata.*
Oedipoda schochi.
 * *Sphingonotus satrapes.*
 * *Leplopternis gracilis.*
Tmethis carinatus.
 „ *gibber.*

Altogether ten species, six of them (marked with an asterisk) penetrating also into the Transcaspien plains. A careful study of these species and their relatives shows us most clearly that they all (except *Stauroderus bicolor* which is dealt with later on) doubtless originated on the Iranian or Armenian table-lands and migrated from there into the adjacent Mesopotamian and Aralo-Caspian plains. As for *Stauroderus bicolor* which is of rather northern origin, it is evident that it found its way to Mesopotamia through the mountains of the Caucasus and Transcaucasia entering the plains along the rivers.

There is, lastly, only one species of Acridiodes in Mesopotamia belonging to the second group which is not to be found anywhere else, while its very near relatives are known from Egypt; it is described in this paper as *Leptoscirtus evansi*. I think that its small size and exceedingly good protective coloration account for the fact that it is not known as yet from Persia, where it ought also to occur.

Thus the Acridiodes fauna of Mesopotamia may be regarded as a true eremian fauna of the great desert belt, being under strong influence of the fauna which originated on the dry table-lands of Persia and of inner Asia Minor.